

WHAT IS CLAIMED IS:

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1. A method for transmitting user data in a mobile communication system having at least one state transition, said at least one state transition including transitioning from an active state where user data is transmitted via a dedicated channel to a control hold state when user data is not generated for a first predefined time in the active state to transmit only control information via a dedicated control channel, said method comprising the steps of:

releasing the dedicated control channel and transitioning to a suspended state when the user data to be transmitted is not generated for a second predefined time in the control hold state;

determining a parameter value specifying an attribute of the generated user data and comparing the parameter value with a predefined reference value when the user data to be transmitted is generated in the suspended state; and

transmitting the user data via a common channel when the parameter value is lower than the predefined reference value.

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2. The method as claimed in claim 1, further comprising the step of transitioning to the active state to transmit the user data via the dedicated control channel when the parameter value is higher than the reference value.

3. The method as claimed in claim 1, wherein the parameter value is a length of the user data.

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4. The method as claimed in claim 1, wherein the parameter value is a generation frequency of the user data.

5. The method as claimed in claim 1, wherein the suspended state is a slotted substate.

6. The method as claimed in claim 1, wherein the suspended state is a virtual traffic substate.

5 7. The method as claimed in claim 1, wherein the suspended state comprises a slotted substate and a burst substate, and the step of releasing the dedicated control channel and transitioning to the suspended state comprises the steps of:

transitioning from the control hold state to the slotted substate of the suspended state when the user data is not generated for the second predefined time in the control hold state; and

transitioning from the slotted substate to the burst substate of the suspended state to transmit the user data via the common channel when the parameter value is lower than the reference value.

8. The method as claimed in claim 1, wherein the suspended state comprises a virtual traffic substate and a burst substate, and the step of releasing the dedicated control channel and transitioning to the suspended state comprises the steps of:

transitioning from the control hold state to the virtual traffic substate of the suspended state when the user data is not generated for the second predefined time in the control hold state; and

transitioning from the virtual traffic substate to the burst substate of the suspended state to transmit the user data via the common channel when the parameter value is lower than the

reference value.

9. The method as claimed in claim 1, wherein the common channel is an access channel.

10. The method as claimed in claim 1, wherein the common channel is a paging channel.

11. A method for receiving user data in a mobile communication system having at least one state transition, said at least one state transition including transitioning from an active state to a control hold state to receive only control information via a dedicated control channel when the user data is not transmitted and received for a first predefined time in the active state, said method comprising the steps of:

releasing the dedicated control channel and transitioning to a suspended state to receive the user data via a common channel when the user data to be transmitted or received is not generated for a second predefined time in the control hold state; and

receiving the user data in the suspended state and storing the received data.

12. The method as claimed in claim 11, wherein the suspended state is a slotted substate.

13. The method as claimed in claim 11, wherein the suspended state is a virtual traffic substate.

14. The method as claimed in claim 11, wherein the suspended state comprises a slotted substate and a burst substate, and the step of releasing the dedicated control channel and transitioning to the suspended state to receive the user data via the common channel comprises the steps of:

5 transitioning from the control hold state to the slotted substate of the suspended state when the user data is not generated for the second predefined time in the control hold state; and

transitioning from the slotted substate to the burst substate of the suspended state to receive the user data when the user data is received via the common channel in the slotted substate.

15. The method as claimed in claim 11, wherein the suspended state comprises a virtual traffic substate and a burst substate, and the step of releasing the dedicated control channel and transitioning to the suspended state to receive the user data via the common channel comprises the steps of:

transitioning from the control hold state to the virtual traffic substate when the user data is not generated for the second predefined time in the control hold state; and

transitioning from the virtual traffic substate to the burst substate to receive the user data when the user data is received via the common channel in the virtual traffic substate.

16. A method for transmitting user data in a mobile communication system having at least one state transition, said at least one state transition including transitioning from an active state where the user data is transmitted via a dedicated channel, to a control hold state when the user data is not generated for a first predefined time in the active state to transmit only control information via a dedicated control channel, and to a first suspended state when the user data to be transmitted is not generated for a second predefined time in the control hold state to release the dedicated channel and establish a common channel, said method comprising the steps of:

transmitting the control information via the common channel and transitioning to a second suspended state when the user data generated in the first suspended state is shorter in length than a reference value; and

transmitting the user data via a common channel in the second suspended state.

17. The method as claimed in claim 16, wherein a dedicated channel is established in the first suspended state and a transition to the active state occurs to transmit the user data via the dedicated channel when the user data generated in the first suspended state is longer in length than the reference value.

18. A method for transmitting user data in a mobile communication system having at least one state transition, said at least one state transition including transitioning from an active state where the user data is transmitted via a dedicated channel, to a control hold state when the user data is not generated for a first predefined time in the active state to transmit control information via a dedicated control channel, and to a first suspended state when the user data to be transmitted is not generated for a second predefined time in the control hold state to release the dedicated channel and establish a common channel, said method comprising the steps of:

transmitting the control information via the common channel and transitioning to a second suspended state when a generation frequency of the user data generated in the first suspended state is lower than a reference value; and

transmitting the user data via the common channel in the second suspended state.

19. The method as claimed in claim 18, wherein the common channel is an access channel.

20. The method as claimed in claim 18, wherein the common channel is a paging channel.

21. The method as claimed in claim 18, wherein a dedicated channel is established in the first suspended state and a transition to the active state occurs to transmit the user data via the dedicated channel when the generation frequency of the user data generated in the first suspended state is higher than the reference value.